

The Jerusalem Experience: Three Decades of Service, Research, and Training in Community-Oriented Primary Care

Community-oriented primary care (COPC) developed and was tested over nearly 3 decades in the Hadassah Community Health Center in Jerusalem, Israel. Integration of public health responsibility with individual-based clinical management of patients formed the cornerstone of the COPC approach.

A family medicine practice and a mother and child preventive service provided the frameworks for this development. The health needs of the community were assessed, priorities determined, and intervention programs developed and implemented on the basis of detailed analysis of the factors responsible for defined health states. Ongoing health surveillance facilitated evaluation, and the effectiveness of interventions in different population groups was illustrated.

The center's international COPC involvement has had effects on primary health care policy worldwide. (*Am J Public Health*. 2002;92:1717–1721)

Leon Epstein, MB, ChB, MPH, Jaime Gofin, MD, MPH, Rosa Gofin, MD, MPH, and Yehuda Neumark, PhD, MPH

FOR MORE THAN 25 YEARS

beginning in 1970, the feasibility of applying the principles of community-oriented primary care (COPC) was demonstrated in different forms of primary health care practice at the Hadassah Community Health Center in the Kiryat HaYovel neighborhood of western Jerusalem.^{1,2} COPC was based on principles of social medicine developed by Sidney and Emily Kark in rural South Africa in the mid-20th century^{3–5} and brought by them to Israel in 1958.

This pioneer development of COPC occurred against the backdrop of 3 major features of primary health care in Israel at that time. First, the health service providers, with whom nearly the entire population was insured, responded only to demand for care. Second, primary health care involved very limited health promotion and disease prevention primary health care services, especially for adults. Third, an extensive network of mother and child health centers focusing on preventive services existed throughout the country, and this network was organizationally and functionally separate from the curative care system.

The COPC approach that grew out of primary health care in Israel and the concepts developed in rural South Africa were conceptualized as “a continuous process by which PHC [primary health care] is provided to a defined population on the basis of its defined health needs by the planned integration of public

health with primary care practice.”⁶ This approach involved a recognition that, in line with the World Health Organization definition of health as far more than absence of disease, health services should be responsive to health needs in the widest sense and should be flexible in their response to changes in these needs. In addition, health services' responsibility is to the health of all members of the defined community and the subgroups entitled to health care, irrespective of whether or not they seek it. The basing of health care planning and delivery on assessed health needs was achieved by the introduction of epidemiology as a central feature of the Hadassah Community Health Center's practice.

These epidemiological skills were necessary to answer what Sidney Kark labeled the “five cardinal questions” that formed

the strategic basis for the development of COPC¹:

1. What is the community's state of health?
2. What are the factors responsible for this health state?
3. What is being done about it?
4. What more can be done, and what is the expected outcome?
5. What measures are needed to continue health surveillance of the community and to evaluate the effects of existing programs?

THE COPC CYCLE

In Jerusalem, these concepts were operationalized in the COPC cycle (Figure 1), which entails the continuous and repetitive performance of various stages. The COPC cycle begins with a multistage *community diagnosis* that includes definition of the community's demographic characteristics, environment,

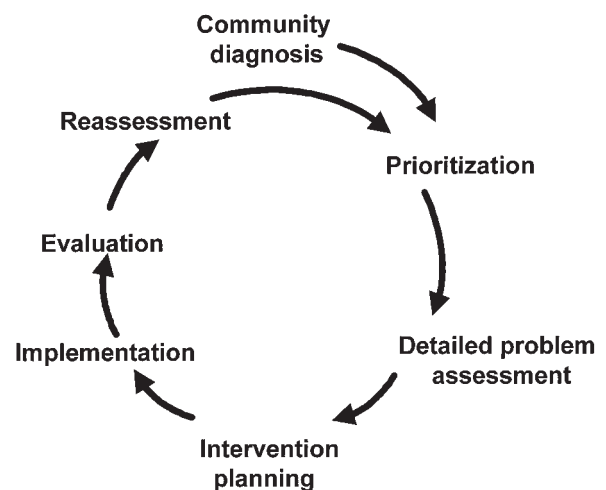


FIGURE 1—The COPC cycle.

health status, and available health and social services. This preliminary diagnosis provides an appraisal of the community's major health-related problems based on epidemiological and clinical data and community and professional input. These identified problems are then *prioritized* through application of predetermined objective criteria, and a single health problem (or a set of problems with common risk factors) is selected as the priority target for intervention. The rationale for prioritization is the unfeasibility of simultaneously intervening on a multitude of problems while continuing to provide high-quality primary health care services.

The targeted problem is then subjected to a *detailed assessment* to examine its precise nature and extent in the community, associated risk factors and determinants, and options for intervention. With this detailed information, an *intervention program* (including an *evaluation* component) can be developed and *implemented*. The stage is then set for later *reassessment* of the community's health status, along with further prioritization, planning, implementation, and evaluation of intervention programs. The repetitive nature of this cycle differentiates the COPC approach from that of community-based projects aimed at a specific disease entity and conducted over a limited period.

THE HEALTH CENTER AND COPC

The Hadassah Community Health Center opened its doors in the mid-1950s⁷ in an area populated largely by recent immigrants from Europe (remnants

of the Holocaust) and North Africa. The community was characterized by diverse ethnic groups originating from more than 25 countries. Over the years, the area rapidly grew from an urban development project to become an integral part of the city, with a population of about 15 000. The primary care approach that developed in the health center involved provision of integrated curative and preventive care, both clinic based and home based, to residents of a geographically defined area of the neighborhood. This area was divided into clusters of homes to which teams of doctors and nurses were assigned. These teams, along with other professionals, also identified and cared for the social, cultural, and emotional health needs of the area's residents.

Here we demonstrate the performance of the COPC cycle stages as they were developed over a period of nearly 3 decades in the 2 clinical practices that functioned in the Hadassah Community Health Center: a comprehensive family medicine unit and a preventive mother and child health program. Academic responsibility for these practices fell to the Department of Social Medicine of the Hadassah Medical Organization and to the Hebrew University Faculty of Medicine.

The clinical teams and the department's faculty of epidemiologists, biostatisticians, and behavioral scientists were jointly responsible for developing, implementing, and evaluating the COPC programs. Although all members of the clinical team had public health training, this academic environment provided the framework for the training of public health and other profes-

sionals and the performance of applied research.

Community Diagnosis

The community diagnosis was driven by questions raised by team members, based on their clinical experience and review of patient records; by student projects and theses; and by repeated community health surveys. For example, the community-based activities of the nurses brought to light the problem of elderly residents homebound because of physical or mental limitations. The extent and underlying causes of the problem were assessed, and a clinical and social welfare support program was developed.²

Similarly, infectious diseases were subject to ongoing surveillance through the use of "Pickles charts" (daily recordings of new cases of defined diseases),¹ and programs were instituted relating to identified changes in morbidity. A relatively high incidence of rheumatic fever came to the team's attention as well, leading to the development of one of the first community-based prevention programs in the family medicine unit.¹

As mentioned, student work and health surveys also contributed to the community diagnosis. In the mid-1960s, at the peak of mass immigration to Israel, 2 master's of public health (MPH) students wrote their theses on the phenomenon of greater growth retardation in infants born to new-immigrant parents from Morocco than in infants of Israel-born parents, notwithstanding the fact that the former were significantly heavier at birth.^{8,9}

Finally, a community health survey was conducted between 1969 and 1971 in which all of

the inhabitants of the health center's defined catchment area were interviewed and examined.¹⁰⁻¹² A central finding of the survey was that cardiovascular disease accounted for more than half of adult mortality and was a major cause of hospitalization.¹³

The data sources just described formed the basis for detailed knowledge of the community's health state. The information gathered also served as the baseline for the subsequent evaluation of intervention programs.

Prioritization

It was clear that not all identified health needs could be simultaneously targeted for intervention. Furthermore, all interventions were to be integrated into the ongoing primary health care activities and were not to require additional clinical manpower or resources. Priorities were defined separately in relation to children and adults, taking into account identified health needs and available resources.

The findings regarding infant and child growth and development led us to identify these elements as the major priority in this age group. Thus, the intervention needed to focus on promoting growth and development through supervision of the pregnancy, labor, and puerperium and of the first years of the child's life through entry into school.^{1,2,4} Similarly, as a result of the survey findings, priority in the case of the adult population was given to atherosclerotic cardiovascular disease.^{1,2,14}

Detailed Assessment of Needs

As a means of effecting changes in community health sta-

tus, a detailed assessment of the prioritized health state was required to determine relevant risk factors and guide the development of intervention activities. Community health surveys, clinical chart reviews, and summations of relevant literature (including experiences elsewhere) provided the basis for regular meetings of the health team (academic and clinical personnel) and students in “epidemiology in practice” sessions, a community medicine equivalent of hospital grand rounds. At these sessions, all available information was incorporated into planning the intervention.^{1,3} These meetings later became the forum for reviews of program performance and effectiveness.

Child growth and development. Several factors affecting growth and development were integrated into the intervention program.¹⁵ For example, one of the characteristics related to the differential development of community groups was the socioeconomic status of parents, especially maternal education level.¹⁵ Improving social conditions was beyond the scope of our community-based intervention program, but the primary health care team identified infants of poorly educated mothers as a high-risk group warranting intervention. Another important observation was that verbal interaction with very young infants was not commonplace among North African parents. This lack of interaction was considered to be a constituent of those infants’ observed deficiencies in intellectual development.

Adult atherosclerotic disease. In the early 1970s, when COPC was being developed at the Hadassah Community Health Center, international and Israeli

data had defined the major risk factors related to coronary heart disease, acute myocardial infarction, and angina pectoris. Detailed assessments of these factors in our community revealed high prevalence rates of coronary heart disease, hypertension, obesity, hypercholesterolemia, and cigarette smoking in adult men and women.¹⁴ These and other data formed the epidemiological basis for subsequent program development.

Program Planning, Development, and Implementation

Intervention planning required the articulation of operational definitions of objectives and activities. Consideration was given to logistic implications of the interventions, especially with regard to additional training and changes required in the functioning of the health center.

Child growth and development. The aim of the child intervention program was to *promote* the growth and development (PROD) of infants and toddlers and to decrease gaps between population groups in this area. PROD program activities included iron supplementation,¹⁶ promotion of breast-feeding,¹⁷ early stimulation,¹⁵ and promotion of a healthy pregnancy and a healthy neonatal period.¹⁸ These activities and other programs (e.g., injury prevention¹⁹ and oral health²⁰), introduced over time according to the changing needs of the population, were integrated into the routine mother and child health clinic functions.^{1,3}

Adult atherosclerotic disease. The intervention program among adults addressed the identified community syndrome of hypertension, atherosclerosis, and diabetes (CHAD). The CHAD pro-

gram aimed for risk reduction at the individual and community levels.

In the early 1970s, a multifactorial intervention program was initiated encompassing all individuals in the community 25 years or older. Medication, diet, physical activity, and health education methods were employed in an attempt to achieve a low-risk or no-risk status for each risk factor and to promote health.^{21,22} The primary health care team acted at the primary, secondary, and tertiary levels of prevention.

Evaluation and Surveillance

Evaluation activities and ongoing surveillance were developed as inherent components of the intervention programs.

PROD. The feasibility and effectiveness of the PROD program were demonstrated. Review of specially designed surveillance records (that became part of the clinical file) revealed that the early stimulation program improved child development in all maternal education groups and reduced gaps across groups.^{15, 23} An increase in breast-feeding¹⁷ and a decrease in anemia prevalence¹⁶ were also noted.

CHAD. Routine clinical records and CHAD program records were reviewed to monitor activity performance and changes in risk status. Evaluations performed 5 years,²⁴ 10 years,²⁵ and 15 years²⁶ after the initiation of the intervention showed the program to be most effective in relation to hypertension control and reductions in cigarette smoking.

These examples illustrate the successful and effective integration—and sustainability over 3 decades—of the COPC approach in an existing primary health

care clinic. The approach was flexible enough to adapt to the changing needs of the community, modifying existing programs and introducing new ones according to clinical and epidemiological evidence.

SPREAD OF COPC THROUGH PROFESSIONAL TRAINING

The COPC approach is the focus of a field-based workshop in the Hadassah MPH program. Since 1960, more than 1000 health professionals from Israel and more than 75 other countries have participated in this workshop.^{27, 28} In addition, hundreds of nursing students, family medicine and public health residents, and other professionals have undergone training. Evaluations of these workshops by our international MPH graduates (3 to 5 years after completing the program) revealed that more than half are actively involved in the application of COPC principles and methods.

Recent administrative reshuffling has resulted in a change in responsibility for the functioning of the health center. Whereas in past years the Kiryat HaYovel community served as the field laboratory for the COPC workshop, we now select communities throughout the country (in collaboration with local health departments) in which our students perform community diagnoses, conduct detailed assessments of prioritized health problems, and develop relevant intervention programs.

Decades of COPC service, research, and training in Jerusalem set the stage for the development of collaborative links with academic and clinical institutions in countries around the world. In

the United States, for example, a COPC workshop is offered jointly with members of the Jerusalem faculty at the George Washington University School of Public Health and Health Services. We have also taken the model back to its country of origin, South Africa, where a series of training workshops were organized in several cities.

In addition, Jaime Gofin has developed a COPC training program with the Catalan Society of Family Physicians in Spain, with the participation of more than 500 family physicians and nurses. An outcome of this collaboration has been the incorporation of COPC into the Spanish National Family Medicine Residency Program and its application in 8 primary health care clinics as demonstration centers.²⁹ In the United Kingdom, a COPC project was carried out in 17 general practices together with the King's Fund.^{30,31}

As mentioned, a central feature of the Jerusalem COPC experience has been the academic framework within which the intervention programs were developed, implemented, and evaluated. Had it not been for this academic backing, one can only speculate as to whether international links would have been forged and whether worldwide penetration of COPC would have occurred.

This issue has direct implications with regard to successful conduct of COPC programs elsewhere. Although many sites proclaim to have adopted the COPC model in the delivery of health care, few, if any, have actually undertaken the entire COPC cycle over an extended period of time. Our experience leads us to believe that the availability of appropriate professional resources

(enabling integration of routine clinical practice with epidemiological, social, and behavioral scientific expertise) was an important factor contributing to the successful application of the complete COPC model in our health center practice. Moreover, the COPC experience became part of the program development of mother and child health centers in Israel, was the basis for a major hypertension program in the largest health maintenance organization in the country,³² and was introduced into family medicine practice in the northern region of Israel.³³

In conclusion, the Jerusalem experience has shown the feasibility and sustainability of primary care–public health integration in community health services and its positive impact on community health. The COPC lessons of Pholela and Jerusalem continue to have relevance for the primary health care reforms that are occurring throughout the world.^{34,35} ■

About the Authors

The authors are with the Department of Social Medicine, Hadassah Medical Organization, and the Hebrew University-Hadassah Braun School of Public Health and Community Medicine, Jerusalem, Israel.

Requests for reprints should be sent to Leon Epstein, MB, ChB, MPH, Department of Social Medicine, Hadassah Medical Organization, PO Box 12000, Jerusalem 91120, Israel (e-mail: leon@hadassah.org.il).

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Contributors

L. Epstein was responsible for primary authorship and revisions of the commentary. The other authors contributed to revising the commentary.

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